

**MATERIAL SAFETY DATA SHEET**

**EC-ISA-LNA1-BT**

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**EUTECH INSTRUMENTS PTE LTD.**

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**GENERAL INFORMATION**

|                     |  |
|---------------------|--|
| PRODUCT NAME:       | Sodium ISA 4M NH <sub>4</sub> Cl/4M NH <sub>4</sub> OH |
| MANUFACTURE'S NAME: | Eutech Instrument PTE LTD                              |
| DISTRIBUTED BY:     | Eutech Instrument PTE LTD                              |
| CHEMICAL NAME:      | Ammonium Chloride & Ammonium Hydroxide in Water        |
| CHEMICAL FAMILY:    | Salt Solution  |

**INGREDIENTS**

|   |            |
|---|------------|
| CAS NO:   | 12125-02-9 |
| % of : NH <sub>4</sub> Cl                                     | 21.4       |
| CAS NO:   | 1336-21-6  |
| % of : NH <sub>4</sub> OH                                     | 27.0       |
| % of water:   | 51.6       |
| OSHA/PEL:   | none       |
| ACGIH/TLV:  | none       |
| LD50(mg/kg) oral-rat of NH <sub>4</sub> Cl/NH <sub>4</sub> OH | None       |

**PHYSICAL AND REACTIVITY DATA**

|                           |  |
|---------------------------|--|
| Appearance & Odor:        | Colorless and slight odor  |
| Stability:                | Stable under normal temperatures and pressures.  |
| Hazardous polymerization; | Has not been reported  |
| Incompatibilities:        | Acids, alkalis, and their associated carbonates. Substance reacts with lead and silver salts to form a fulminating compound. Substance reacts with ammonium compounds, bromine pentafluoride, bromine trifluoride, hydrogen cyanide, iodine heptafluoride, nitrates, and potassium chlorate, Acrolein, acrylic acid, chlorosulfonic acid, dimethyl sulfate, fluorine, gold + aqua regia, hydrochloric acid, hydrofluoric acid, iodine, nitric acid, oleum, propiolactone, propylene oxide, silver nitrate, silver oxide, silver oxide + ethyl alcohol, nitromethane, silver permanganate, sulfuric acid, halogens. Forms |

|                                   |  |
|-----------------------------------|--|
|                                   | explosive compounds with many heavy metals and halide salts.                                       |
| Condition to avoid:               | High temperatures, incompatible materials.   |
| Hazardous Decomposition Products: | Irritating and toxic fumes and gases, ammonia and hydrochloric acid fumes, Nitrogen oxides (NOx) . |

#### FIRE AND EXPLOSION HAZARD DATA

|                           |  |
|---------------------------|--|
| General Information       | As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. |
| Explosion :               | Not considered to be an explosion hazard.  |
| Fire Extinguishing Media: | For small fires, use water spray, dry chemical, carbon dioxide or chemical foam. Do NOT get water inside containers. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.  |
| Special information::     | In the event of fire, wear NIOSH/MSHA approved breathing apparatus, resistant clothing, hat. Boots and gloves.   |

#### HEALTH HAZARD DATA

|               |  |
|---------------|--|
| Ingestion :   | Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. Causes throat constriction, vomiting, convulsions, and shock. |
| Inhalation:   | Effects may be delayed. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma  |
| Skin contact: | Causes severe skin irritation. Causes skin burns. May cause deep, penetrating ulcers of the skin. Contact with the skin may cause staining, inflammation, and thickening of the skin.  |
| Eye contact;  | Contact with liquid or vapor causes severe burns and possible irreversible eye damage  |

#### FIRST AID MEASURES

|               |   |
|---------------|---|
| Inhalation :  | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. NOTE: After inhalation exposure, observe for 24 to 72 hours as pulmonary edema may be delayed. |
| Ingestion:    | If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.   |
| Skin contact: | In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.  |
| Eye contact:  | Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed. Extensive irrigation with water is required (at least  |

|  |              |
|--|--------------|
|  | 30 minutes). |
|--|--------------|

**DISPOSAL PROCEDURES**

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|---------------------|---|
| Steps to be taken : | Whatever can not be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements. |
|---------------------|---|

**STORAGE AND HANDLING PRECAUTIONS**

|                       |  |
|-----------------------|--|
| Storage requirements: | Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area.   |
| Handling              | Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Discard contaminated shoes. |

**TRANSPORTATION DATA AND ADDITIONAL INFORMATION**

**Domestic (D.O.T.)**

|                       |               |
|-----------------------|---------------|
| Proper shipping name: | non-regulated |
|-----------------------|---------------|

**International (I.M.O.)**

|                       |               |
|-----------------------|---------------|
| Proper shipping name: | non-regulated |
| Marine pollutants:    | non-regulated |

**Air (I.C.A.O.)**

|                       |               |
|-----------------------|---------------|
| Proper shipping name: | non-regulated |
|-----------------------|---------------|

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